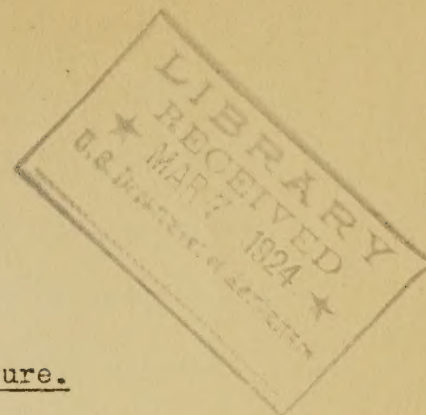


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United States Department of Agriculture.

DESCRIPTION OF DAIRY EXHIBIT

for

DEMONSTRATION TRAIN, 1924.

Dairy Herd Improvement.

In this section of the exhibit the United States Department of Agriculture calls attention to the need for improving dairy cows. It is pointed out that dairy cows furnish a constant market for feed; that high-producing dairy cows are a good and constant market for feed; and that in purebred high-producing dairy cows the farmer has a double market --- through sales of milk and sales of purebred calves. The value of cow testing in improving the dairy herd is emphasized in a panel entitled "Listening In on the Dairy Herd," in which a farmer is shown to be determining the true value of each of his cows through the use of the Babcock tester and milk scales.

Breeding.

The value of those sires which are able to transmit high production can not be overemphasized, and it is a real misfortune that many of this class of bulls are lost before their worth is appreciated. When a prepotent bull of this kind is slaughtered prematurely, it is a distinct loss to the breed and to the dairy industry. Bulls capable of transmitting high production should be permitted to go on breeding, and should have every opportunity to leave large numbers of their progeny when their days of usefulness have passed. This exhibit is justly entitled the "Gallery of Regrets."

Cooperative Bull Associations.

The United States Department of Agriculture is cooperating with the States in helping farmers to organize bull associations wherever needed; there are now about 218 bull associations in the United States. To direct attention to the advantages of this form of organization, the

results obtained by some of the older associations are shown. A large panorama painting shows graphically how an association is organized. With this is an exact model of a Safe Keeper bull pen, so called because it is safe for the keeper and safe for the bull. Plans for this pen may be obtained from the Dairy Division.

Where Are You on The Feed-Cost Road?

This part of the exhibit illustrates some investigations in the cost of milk production, carried on by the Department of Agriculture. It shows that in the cost of feeding dairy cows there is a danger line beyond which no dairyman can pass without risking a loss. There is a dead line beyond which a loss is almost certain. The danger line is 50 cents spent for feed for each dollar's worth of milk produced. The dead line is 65 cents spent for feed for each dollar's worth of milk produced.

Milk Pays The Bills.

Yes, milk does pay the bills, if you pick the right cows. The figures on this section show that it took only 539 more pounds of milk to pay for the feed consumed by the higher-producing cow over the other cow. It took practically the same amount of milk to pay the labor cost and other costs.

The good cow produced 7,477 pounds of milk, and it took 6,477 pounds of it to pay for keeping her, leaving exactly 1,000 pounds of milk for profit. The poor cow failed by 1,871 pounds to produce milk enough to pay for the cost of keeping her. Thus it took the extra 1,000 pounds of milk which the good cow produced, and 871 more pounds of milk from some other good cow, to keep the poor cow for a year.

Don't let a poor cow starve you.

Knowledge Is Power.

Cow testing furnishes the knowledge which enables the dairyman to cull wisely, feed properly, and climb the steps to success.

One section is designed to show the relation between production and income over cost of feed. A stairway is depicted, in which the lower step shows an average production of 100 pounds of fat and an income above feed cost of only \$10. Associated with the lower step is a poor unkempt group of farm buildings, the result of low production.

The relation between production and income is carried up the flight of steps, until the top step indicates a production of 450 pounds of butter and an income of \$122 over cost of feed. Associated with the high step is a fine farmhouse and group of buildings, the result of high average production.

Soy Beans For the Dairy Farm.

The soybean is an erect, rather hairy annual leguminous plant, growing from two to six feet high. It is a plant of ancient cultivation in Asiatic countries. Within the last few years the soybean has become a crop of special importance in the world's commerce, and large shipments of beans, oil, and cake have been made from the Orient to America and European countries. The soybean was introduced into the United States in 1804, but it is only within the last few years that it has assumed much importance. The large commercial use of the soybean and its products, and the increasing use for food and for forage have resulted in an enormous increase in acreage. It is believed that the soybean will become one of the leading farm crops of this country.

In general, the climatic adaptations and soil requirements of the soybean are about the same as for varieties of corn and cotton. The soybean is more drought resistant and less sensitive to an excess of moisture than field beans or corn.

Culture. The preparation of the seed bed for soybeans is similar to that for corn. When sown on land not previously planted to this crop, it is advisable to inoculate. The best time for planting soybeans is about that for planting corn. When sown or drilled broadcast use 90 pounds of seed and in rows, about 30 pounds.

Varieties. The variety to be selected should be one adapted to local conditions and to the purpose for which the crop is grown. In view of the possibilities of this crop and its great agricultural development in the United States, it is important to utilize the very best varieties. Varieties of soybeans are differentiated largely by color and size of seed, though they differ in maturity, habit of growth, oil and protein content, yield, etc. The yellow-seeded varieties are to be preferred for food products, pasture, oil and cake, while the black and brown-seeded varieties are more suitable for forage purposes, giving more and finer forage. These varieties are shown in the exhibit.

Utilization. In extent of uses and value the soybean is the most important legume grown in the Orient. It is largely used by Asiatic people in the preparation of various foods. As the bean contains a valuable oil, large quantities are utilized by first extracting the oil and using the cake for stock feed and as a fertilizer. In the United States the soybean is used primarily for hay, soilage,

ensilage and pasture.

Hay: The soybean when cut at the right stage of growth and properly cured makes an excellent hay of high-feeding value that is relished by all farm animals. The soybean will average about 2 tons to the acre. A sample of this hay will be found in the exhibit.

Straw: The straw obtained from threshing soybeans for seed is a valuable feed for all kinds of stock.

Soilage: Having a high protein value the soybean may be fed to good advantage as a soiling crop with less nitrogenous crops, such as corn, sorghum, and Sudan grass.

Silage: The soybean forms a valuable supplement to corn for silage, making a well-balanced silage that keeps well as will be noted from the samples shown. It is readily eaten by stock, and produces no bad effects in the quality of milk and its products.

Pasture: As a pasture crop, the soybean can be used to advantage for all kinds of stock, the most profitable method, perhaps, being to pasture with hogs, supplementing the corn ration.

Oil: Soybean oil is extensively used in Europe and America for food stuffs, in the manufacture of paints, lard and butter substitutes, soaps, enamels, linoleum, etc.

Cake or Oil Meal: The soybean cake remaining after the oil is pressed out is ground into a meal and makes a highly concentrated feed. This meal is used in the dairy countries of Europe, practical experience having shown its high feeding value. Large quantities of imported oil

meal have been used by dairymen and poultrymen in the Pacific States. Oil and cake are being produced from American-grown beans by oil mills in parts of the Corn Belt and the Cotton Belt.

Publications: The soybean, with special reference to its utilization for oil, cake and other products, U.S. Dept. Agr. Bull. 439.

Harvesting Soybean Seed, U. S. Dept. Agr. Farmers' Bull. 886.

The Soybean: Its Culture and Uses. U. S. Dept. Agr. Farmers' Bull. 973.

Clean Milk.

In the sections devoted to clean milk the various factors are shown which have a bearing on clean milk production, from the time it is produced on the farm until it is bottled and delivered to the consumer. Here are shown the results of interesting experiments on the time milk can be kept sweet. Four factors, viz., efficient cooling, sterile utensils, small-top milk pails, and clean cows, are shown to have a marked influence on the length of time the milk will keep sweet.